



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-1078; Product Identifier 2017-CE-038-AD; Amendment 39-19178; AD 2018-03-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Various Aircraft Equipped with BRP-Rotax GmbH & Co KG 912 A Series Engine**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final Rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for various aircraft equipped with a BRP-Rotax GmbH & Co. KG (formerly BRP-Powertrain GmbH & Co. KG; Bombardier-Rotax GmbH & Co. KG; Bombardier-Rotax GmbH) 912 A series engine. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and address an unsafe condition on an aviation product. The MCAI describes the unsafe condition as defective valve push-rod assemblies manufactured from June 8, 2016, through October 2, 2017. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1078; or in person at Docket Operations, U.S. Department of Transportation, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.

For service information identified in this AD, contact BRP-Rotax GmbH & Co. KG, Rotaxstrasse 1, A-4623 Gunskirchen, Austria; phone: +43 7246 601 0; fax: +43 7246 6370; Internet: <http://www.flyrotax.com>. You may view this referenced service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for Docket No. FAA-2017-1078.

**FOR FURTHER INFORMATION CONTACT:** Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Standards Branch, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: [jim.rutherford@faa.gov](mailto:jim.rutherford@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to various aircraft equipped with a BRP-Rotax GmbH & Co. KG (formerly BRP-Powertrain GmbH & Co. KG; Bombardier-Rotax GmbH & Co. KG; Bombardier-Rotax GmbH) 912 A series engine. The NPRM was published in the *Federal Register* on November 22, 2017 (82 FR 55527). The NPRM proposed to address an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country.

The MCAI states:

Power loss and engine RPM drop have been reported on Rotax 912/914 engines in service. It has been determined that, due to a quality control deficiency in the manufacturing process of certain valve push-rod assemblies, manufactured between 08 June 2016 and 02 October 2017 inclusive, partial wear on the rocker arm ball socket may occur, which may lead to malfunction of the valve train.

This condition, if not detected and corrected, may lead to rough engine operation and loss of power, possibly resulting in a forced landing, with consequent damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, BRP-Rotax issued Service Bulletin (SB) SB-912 i-008 / SB-912-070 / SB-914-052 (single document), providing applicable instructions.

For the reason described above, this [EASA] AD requires a one-time inspection and, depending on findings, replacement of affected parts. This [EASA] AD also prohibits installation of affected parts on an engine].

The MCAI can be found in the AD docket on the Internet at <https://www.regulations.gov/document?D=FAA-2017-1078-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Related Service Information under 1 CFR part 51**

We reviewed BRP-Rotax GmbH & Co KG Rotax Aircraft Engines BRP Service Bulletin SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1 (co-published as one document), Revision 1, dated October 12, 2017. The service information describes procedures for inspecting and, if necessary, replacing the valve push-rod assembly on the left and/or right rocker arms. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this AD.

### **Costs of Compliance**

We estimate that this AD will affect 63 products of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic inspection requirement of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$70 per product.

Based on these figures, we estimate the cost of this AD on U.S. operators to be \$9,765, or \$155 per product.

In addition, we estimate that any necessary follow-on actions will take about 2 work-hours to replace all 8 valve push-rod assemblies and associated parts on all 4 cylinders and require parts costing \$3,093, for a cost of \$3,263 per product. We have no way of determining the number of products that may need these actions.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to small airplanes, gliders, balloons, airships, domestic business jet transport airplanes, and associated appliances to the Director of the Policy and Innovation Division.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1078; or in person at the Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

2018-03-05 **Various Aircraft:** Amendment 39-19178; Docket No. FAA-2017-1078; Product Identifier 2017-CE-038-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all serial numbers of the airplanes listed in table 1 to paragraph (c) of this AD, certificated in any category that are either:

(1) equipped with a BRP-Rotax GmbH & Co. KG (formerly BRP-Powertrain GmbH & Co. KG; Bombardier-Rotax GmbH & Co. KG; Bombardier-Rotax GmbH) 912 A series engine (Rotax 912 A series engine) with a serial number (S/N) listed in table 2 to paragraph (c) of this AD; or

(2) equipped with a Rotax 912 A series engine with any S/N that has had a part number (P/N) 854861 valve push-rod assembly replaced in-service (e.g., during engine repair, maintenance, or general overhaul) during the time frame of June 8, 2016, to the effective date of this AD.

Table 1 to Paragraph (c) – Affected Airplanes

Type Certificate Holder	Aircraft Model	Engine Model
Aeromot-Indústria Mecânico-Metalúrgica Ltda	AMT-200	912 A2
Diamond Aircraft Industries	HK 36 R “SUPER DIMONA”	912 A
DIAMOND AIRCRAFT INDUSTRIES GmbH	HK 36 TS and HK 36 TC	912 A3
Diamond Aircraft Industries Inc.	DA20-A1	912 A3
HOAC-Austria	DV 20 KATANA	912 A3
Iniziativa Industriali Italiane S.p.A.	Sky Arrow 650 TC	912 A2
SCHEIBE-Flugzeugbau GmbH	SF 25C	912 A2, 912 A3

Table 2 to Paragraph (c) – Affected Engine Serial Numbers (S/N)

Engine	Affected S/N
912 A series	4 411 126 through 4 411 146 and 4 411 401 through 4 411 492

**(d) Subject**

Air Transport Association of America (ATA) Code 72: Reciprocating Engine.

**(e) Reason**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and address an unsafe condition on an aviation product. The MCAI describes the unsafe condition as defective valve push-rod assemblies manufactured from June 8, 2016, through October 2, 2017. We are issuing this AD to prevent rough engine operation, which could cause loss of power and result in loss of control.

**(f) Actions and Compliance**

Unless already done, do the following actions:

(1) For aircraft with engines that have 160 hours time-in-service (TIS) or less since first installed: Before exceeding 170 hours TIS on the engine since first installed or within the next 3 months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs first, visually inspect the valve push-rod ball sockets of each valve push-rod using the Accomplishment Instructions in Rotax Aircraft Engines BRP Service Bulletin SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1 (co-published as one document), Revision 1, dated October 12, 2017 (Rotax SB SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1).



(2) For airplanes with engines that have 160 hours TIS or more since first installed: Within the next 10 hours TIS after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD) or within the next 3 months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs first, visually inspect the valve push-rod ball sockets of each valve push-rod using the Accomplishment Instructions in Rotax SB SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1.

(3) For all affected airplanes: If a valve push-rod with a black surface is found during the inspection required in paragraph (f)(1) or (f)(2) of this AD, before further flight, replace the valve push-rod and its affected parts with airworthy parts using the Accomplishment Instructions in Rotax SB SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1.

(4) For all affected airplanes: As of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), do not install a valve push-rod that was manufactured from June 8, 2016, through October 2, 2017.

**(g) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Small Airplane Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Standards Branch, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, Small Airplane Standards Branch, FAA; or European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community.

**(h) Related Information**

Refer to MCAI EASA AD No. 2017-0208, dated October 13, 2017, for related information. You may examine the MCAI on the Internet at <https://www.regulations.gov/document?D=FAA-2017-1078-0002>.

**(i) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Rotax Aircraft Engines BRP Service Bulletin SB-912 i-008 R1/SB-912-070 R1/SB-914-052 R1 (co-published as one document), Revision 1, dated October 12, 2017.

(ii) Reserved.

(3) For BRP-Rotax GmbH & Co KG service information identified in this AD, contact BRP-Rotax GmbH & Co. KG, Rotaxstrasse 1, A-4623 Gunskirchen, Austria; phone: +43 7246 601 0; fax: +43 7246 6370; Internet: <http://www.flyrotax.com>.

(4) You may view this service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1078.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.  
Issued in Kansas City, Missouri, on February 5, 2018.

Melvin J. Johnson,  
Deputy Director, Policy & Innovation Division,  
Aircraft Certification Service.

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